



Taxonomic Paper

Checklist of aquatic and marshy Monocotyledons from the Araguaia River basin, Brazilian Cerrado

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Abstract

Background

The Araguaia River basin runs through the states of Goiás, Mato Grosso, Tocantins, and Pará, covering 373,000 Km², mostly within the Brazilian Cerrado. The region has a wide variety of wetlands. The climate is characterized by high temperatures and strongly seasonal precipitation. There are two well defined seasons: the dry season (winter-spring) and the rainy season (summer- fall). The Araguaia River basin is dominated by plinthosols that are found in low flat areas, poorly drained and prone to flooding, yielding wetland habitats of high plant diversity. Since the 1970s, human activities have led to reduction in both the diversity and area of wetlands. The construction of the Belém-Brasília highway and hydroelectric dams, as well as the expansion of agricultural and mining activities, have had major impacts on the region.

New information

The flora diversity data of the Araguaia River basin was developed through field work, herbarium research, and use of a database (*Species Link*). The resulting checklist of 162 aquatic and marshy monocotyledons from the Araguaia River basin represents 20 families and 50 genera. Cyperaceae (51 spp.), Poaceae (39 spp.), and Eriocaulaceae (16 spp.) are

the most representative families. Life form analysis indicates that helophytes predominate (98 spp.; 60.5%). One hundred one species are native to tropical and/or subtropical America and twenty one are endemic to Brazil. Ninety-three species are new occurrences for the Araguaia River basin. Among them, three species are reported in the Brazilian Cerrado for the first time. This work contributes to the understanding of aquatic plant diversity in the Cerrado and other savanna-like vegetation physiognomies; environments and habitats poorly understood taxonomically and undercollected generally.

Keywords

Aquatic plants, Brazilian savannah, Central Brazil flora, *Lilianae*

Introduction

The Brazilian Cerrado is one of the most threatened ecosystems in Brazil and was ranked among the 34 most important biodiversity hotspots of the world (Mittermeier et al. 2004). In the first survey of the Cerrado flora, Mendonça et al. (1998) listed ca. 6,000 angiosperm species. After that, efforts to raise the knowledge on biodiversity for this area nearly doubled the number of species, with the monocotyledons (*Lilianae*) accounting for roughly 25% of the increase (Sano et al. 2008). The Araguaia River basin runs through the states of Goiás, Mato Grosso, Tocantins, and Pará; covering 373,000 Km² (Lima et al. 2004), mostly within the Cerrado. The region is rich in wetlands like rivers, streams, temporary or permanent swamps and pools. The climate is characterized by high temperatures that reach 100.4 °F in September and October and strongly seasonal precipitation of 1750 to 2000 mm per year. There are two well- defined seasons: the dry season (July-November) and the rainy season (December-June) (IBGE 1989). This basin is dominated by plinthosols, which are poorly drained and usually found in low flat areas prone to flooding (Resende et al. 1995), forming temporary or permanent swamps. The importance of wetland habitats ecologically and in terms of plant biodiversity globally has been emphasized by many authors (e.g. Gopal and Junk 2000, Thomaz and Cunha 2010, Paz and Bove 2011, Mendonça et al. 2012, Moura-Júnior et al. 2013). On the other hand their taxonomic diversity is rarely the focus of wetland studies (e.g. Pedralli et al. 997, Bove et al. 2003, Moreira et al. 2011, Contaifer et al. 2013, Sabino et al. 2015).

The first study to include aquatic plants in Brazil was carried out by Hoehne (1915) in the Cerrado and in the Amazon Forest. The same author published “Plantas Aquáticas” (Hoehne 1948), a pioneer study of aquatic flora from Brazil. Also, species from Pantanal have been studied (Pott and Pott 1997, Pott and Pott 2000). A checklist from the states of Mato Grosso and Mato Grosso do Sul (Dubs 1998) and the vascular flora of the Emas National Park, located in the Araguaia River basin (Batalha and Martins 2002) incidentally included some aquatic plants, though they did not survey aquatic ecosystems. In spite of the vast area encompassed by the Araguaia River basin and the broad diversity of wetland habitats, the aquatic and marshy flora of this region is little known. This work contributes to

a better understanding of the aquatic environments in the Cerrado and other savanna-like vegetation physiognomies. Notably, herbarium collections are depauperate with respect to aquatic plants, reflecting both the difficulty of collecting in wetlands, as well as the scarcity of specialists in the taxonomic groups included. Generally, these plants are incidentally collected by terrestrial plant specialists and the quality of incidental collections may challenge correct identification. Thus, the real diversity of the aquatic flora from the Brazilian Cerrado will be better known through studies carried out by specialists focusing on aquatic habitats on the region. Our efforts to improve the knowledge of the aquatic flora from the Araguaia River basin have resulted in the discovery of new species (Koehler and Bove 2001, Oliveira et al. 2011) and on the better understanding of taxonomic groups such as the Alismatales (Koehler and Bove 2004) and Cyperaceae (Gil et al. 2007, Oliveira et al. 2011). As a result of an intensive search of collections and field work, we provide here an annotated list of aquatic and marshy monocots found in the Araguaia River basin. The results increase our knowledge of biodiversity in this basin and in the Cerrado. Species not previously reported to this area are highlighted. We also include images of the specific habitats and species from the Araguaia River basin.

Materials and methods

Material for this study is from collections made between 5-20°S and 45–55°W, located approximately between the city of Alto Araguaia at the southern limit and the city of Formoso do Araguaia at the northern limit (Fig. 1). Collections were made randomly, primarily along state roads (MT-100, MT-126, MT-326, GO-164, GO-184, GO-173, GO-221, GO-324, GO-334, and GO-530) and federal roads (BR-070, BR-158, BR-242 and BR-251); in both, rainy and dry seasons (1997, 1999, 2004, 2006, and 2007). Part of this material has been used in previous studies (Gil et al. 2007, Koehler and Bove 2001, Koehler and Bove 2004, Oliveira and Bove 2011), which overlap some portion of the study area for the present study. Surveyed habitats included rivers, streams, seasonally and permanently flooded areas (Fig. 2). The specimens were dried following standard techniques (Fidalgo and Bononi 1989). Voucher materials were deposited in the herbarium of the Museu Nacional from the Federal University of Rio de Janeiro (R). Material from the following herbaria: R, RB, UB and UFG (<http://sweetgum.nybg.org/science/ih/>) were also analyzed. The search in the consulted herbaria was done analyzing all monocotyledonous material from the Araguaia River basin. The database SpeciesLink (2002) was consulted using the searching word “Araguaia”. Only those vouchers identified by experts in each family were added to the checklist. The data were compared to the previous bibliography on the Cerrado above mentioned and to the Lista de espécies da flora do Brasil (2010). The taxa were displayed in alphabetic order by family. The circumscription of families followed APG III (2009), the binomials and the geographic distribution is according the World Checklist of selected plant families (2013). The definition of aquatic plants adopted herein is sensu Cook 1996: “...whose photosynthetically active parts are permanently or, at least, for several months each year submerged in water or floating on the surface of water”. It includes the life form helophytes from the marshy areas as well the strictly aquatic species

with their related life forms (submerged-fixed or submerged-free, floating-fixed or floating-free, and emergent).

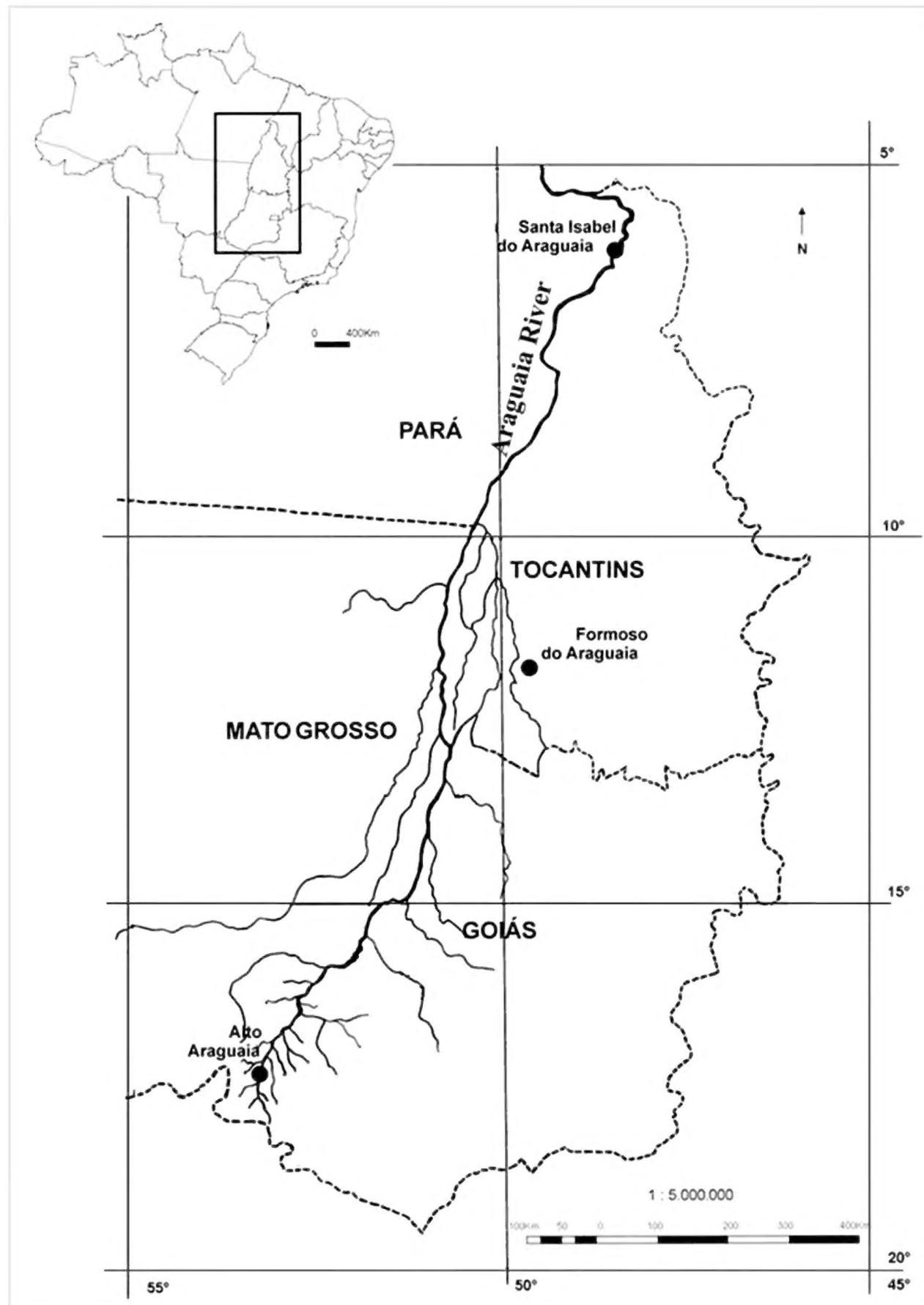


Figure 1.

Araguaia River basin map (Gil et al. 2007, Oliveira et al. 2011).

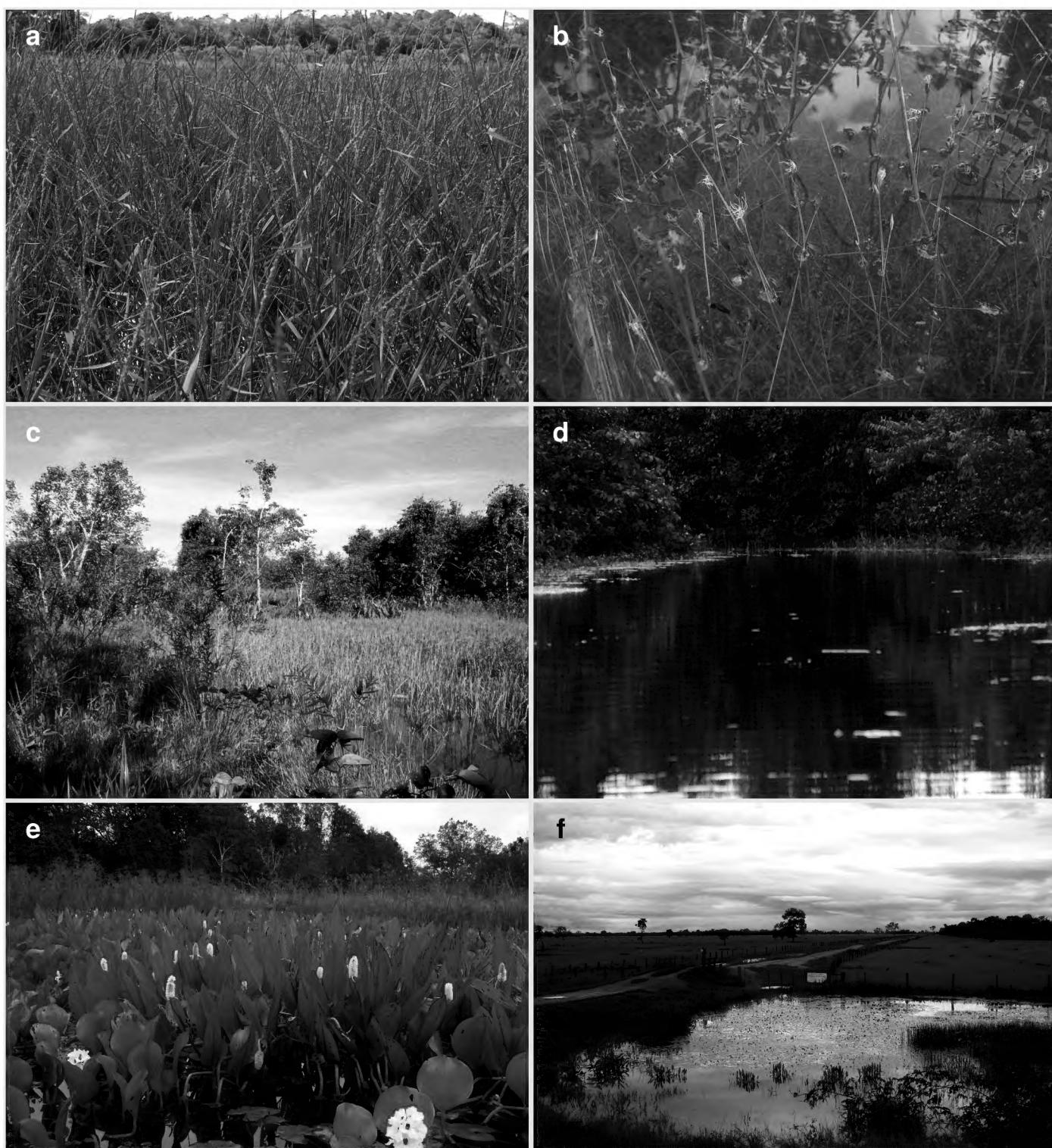


Figure 2.

Natural ecosystems

a: Temporay swamp dominated by *Hymenachne amplexicaulis* (Rudge) Nees. Goiás, Aruanã-Peixe road (14°44'34"S, 50°56' 34"W).

b: Temporay swamp dominated by *Eleocharis retroflexa* (Poir.) Urb. Goiás, Aruanã-Araguapaz road (14°49'10 "S, 50°58'36"W).

c: Temporay swamp dominated by Poaceae and Cyperaceae. Goiás, GO-184, 49,5km South of Nova Crixás.

d: Permanent swamp with *Eriocaulon setaceum* L. Tocantins, BR-242, Formoso do Araguaia-São João do Javaés road.

e: Temporay swamp dominated by Pontederiaceae. Tocantins, Alvorada-Peixe road (12°29'46"S, 49°00'51"W).

f: Temporary swamp with *Fimbristylis quinquangularis* (Vahl) Kunth. Tocantins, BR-242, Formoso do Araguaia-São João do Javaés road.

Checklist of hydrophyllous Monocots from the Araguaia River basin

Echinodorus longipetalus Mich.

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 26; recordNumber: 158; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Echinodorus subalatus (Mart. ex Schult. f.) Griseb.

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Água Boa-Cocalinho road, 100 Km from Cocalinho; verbatimLatitude: 14°8'58.69"S; verbatimLongitude: 51°32'21.24"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 12; recordNumber: 264; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Britain to Ukraine, North Africa - WP.

Helanthium bolivianum (Rusby) Lehtonen & Myllys

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 9; recordNumber: 238; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Helanthium tenellum (Mart. ex Schult.f.) J.G.Sm.

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 26; recordNumber: 161; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Holarctic, Pacific Is.

Hydrocleys nymphoides* (Willd.) Buchenau*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Mozarlândia-Nova Crixás road, 18.6 Km from Mozarlândia; verbatimLatitude: 14°36'25.24"S; verbatimLongitude: 50°30'49.96"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 606; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Hydrocleys parviflora* Seub.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road, 54 Km from Jussara; verbatimLatitude: 15°36'26.83"S; verbatimLongitude: 51°12'40.37"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 28; recordNumber: 201; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Mediterranean.

Limnocharis laforestii* Griseb.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Britânia-Aruanã road, 5 Km from Britânia; verbatimLatitude: 15°13'0.38"S; verbatimLongitude: 51°11'39.86"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 28; recordNumber: 205; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Holarctic.

Sagittaria guayanensis* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Araguapaz-Aruanã road, 11 Km from Aruanã; verbatimLatitude: 15°2'22.65"S; verbatimLongitude: 50°43'11.52"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 13; recordNumber: 281; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Cosmopolitan.

***Sagittaria rhombifolia* Cham.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road, 62.6 Km from Jussara, Pindaíba River; verbatimLatitude: 15°32'26.56"S; verbatimLongitude: 51°14'31.83"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 14; recordNumber: 582; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Holarctic.

***Anthurium lindmanianum* Engl.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 26; recordNumber: 168; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Dieffenbachia aglaonematifolia* Engl.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: MT-433, 11.7 Km from BR-158, Serra Nova Dourado, stream crossing road; verbatimLatitude: 12°09'30.0"S; verbatimLongitude: 51°36'49.0"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 12; day: 17; recordNumber: 6516; recordedBy: J. A. Lombardi; institutionID: Universidade Estadual Paulista Herbarium; institutionCode: HRCB

Distribution: Europe.

***Dieffenbachia seguine* (Jacq.) Schott**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO- 334 road to Peixe, 8.8 Km from GO-164 road; verbatimLatitude: 14°52'27"S; verbatimLongitude: 50°30'16"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 16; recordNumber: 615; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Palearctic.

Gearum brasiliense* N.E.Br.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Luiz Alves, 45 Km from São Miguel do Araguaia; verbatimLatitude: 13°14'02"S; verbatimLongitude: 50°33'42"W; verbatimCoordinateSystem: degree minutes; year: 1996; month: 11; day: 4; recordNumber: 2241; recordedBy: J. Bogner; institutionID: Intituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

Philodendron imbe* Schott*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia-Alto de Boa Vista road, 9 Km from São Félix do Araguaia; verbatimLatitude: 11°37'58.7"S; verbatimLongitude: 50°46'34.7"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 17; recordNumber: 14411; recordedBy: V. C. Souza; institutionID: Universidade Estadual de Maringá Herbarium; institutionCode: HUEM

Distribution: Europe.

Philodendron quinquenervium* Miq.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO-164 road, 49.5 Km South of Nova Crixás; verbatimLatitude: 14°28'20.27"S; verbatimLongitude: 50°28'31.05"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 14; recordNumber: 1655; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Italy

Urospatha sagittifolia* (Rudge) Schott*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 26; recordNumber: 160; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Macedonia, Greece, Bulgaria.

Xanthosoma striatipes* (Kunth & C.D.Bouché) Madison*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 523; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Eastern Europe.

Desmoncus polyacanthos* Mart.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia-Alto de Boa Vista road, 9 Km from São Félix do Araguaia; verbatimLatitude: 11°22'33.1"S; verbatimLongitude: 50°27'48.5"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 18; recordNumber: 14405; recordedBy: V.C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

Distribution: Macedonia, Serbia, Montenegro.

Syagrus petraea* (Mart.) Becc.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia, margin of Riozinho River; verbatimLatitude: 11°30'11.7"S; verbatimLongitude: 50°29'25.7"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 17; recordNumber: 14363; recordedBy: V.C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

Distribution: Europe.

Apteris aphylla* (Nutt.) Barnhart ex Small*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caipônia-Iporá road (Km 54); verbatimLatitude: 16°43'45.15"S; verbatimLongitude: 51°29'18.64"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 19; recordNumber: 671; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Burmannia capitata* (Walter ex J.F.Gmel.) Mart.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Alto Araguaia; verbatimLatitude: 17°18'64"S; verbatimLongitude: 53°13'08"W; verbatimCoordinateSystem: degree minutes; year: 2007; month: 1; day: 10; recordNumber: 1809; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Palearctic.

Burmannia flava* Mart.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road; verbatimLatitude: 14°58'00"S; verbatimLongitude: 50°52'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 19; recordNumber: 597; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Canna indica* L.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Santana do Araguaia, Redencão-Barreiras dos Campos road, PA-150, 100 Km South of Redencão; verbatimLatitude: 8°45'00.0"S; verbatimLongitude: 50°25'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 19; recordNumber: 8898; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

Distribution: Palearctic.

Commelina erecta* L.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: 96 Km South of Xavantina; verbatimLatitude: 15°32'58.91"S; verbatimLongitude: 52°12'31.36"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 18; recordNumber: 17402; recordedBy: H. S. Irwin; institutionID: Smithsonian Institution; institutionCode: US

***Commelina diffusa* Burm. f.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road; verbatimLatitude: 15°53'53"S; verbatimLongitude: 52°13'21"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 483; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Distribution: Holarctic.

***Commelina obliqua* Vahl**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caipônia, Serra dos Caiapós; verbatimLatitude: 16°57'15.57"S; verbatimLongitude: 51°48'34.36"W; verbatimCoordinateSystem: degree minutes; year: 1973; month: 5; day: 2; recordNumber: 9615; recordedBy: W. R. Anderson; institutionID: Museu Nacional Herbarium; institutionCode: R

***Costus spirales* (Jacq.) Roscoe**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 97 Km from Jussara; verbatimLatitude: 15°52'58.60"S; verbatimLongitude: 51°27'18.43"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 508; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Ascolepis brasiliensis* (Kunth) Benth. ex C.B. Clarke**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road, 78.2 Km from Jussara; verbatimLatitude: 15°52'54.69"S; verbatimLongitude: 51°3'50.35"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 548; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Bulbostylis stenocarpa* Kük.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca. 25 Km South of Xavantina, drainage of the Upper Araguaia River; verbatimLatitude: 14°52'12.0"S; verbatimLongitude: 52°19'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1996; month: 6; day: 13; recordNumber: 17073; recordedBy: H. S. Irwin; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

Calyptrocarya glomerulata* (Brongn.) Urb.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caiapônia-Piranhas road, 30 Km South of Caiapônia, Abóbora waterfall; verbatimLatitude: 16°47'12"S; verbatimLongitude: 51°43'16"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 18; recordNumber: 650; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Cyperus diffusus* Vahl*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia; verbatimLatitude: 11°37'49"S; verbatimLongitude: 50°39'58"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 18; recordNumber: 14465; recordedBy: V.C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

Cyperus digitatus* Roxb.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Peixe road, GO-334, 39.1Km from GO-164; verbatimLatitude: 14°56'34.22"S; verbatimLongitude: 50°14'33.60"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 16; recordNumber: 627; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Cyperus giganteus* Vahl*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Cocalinho, MT 326 road; verbatimLatitude: 14°20'00.0"S; verbatimLongitude: 51°10'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1992; month: 10; day: 23; recordNumber: 7088; recordedBy: G. Windisch et al.; institutionID: Universidade Federal do Rio Grande do Sul Herbarium; institutionCode: ICN

Cyperus haspan* L.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, Água limpa River; verbatimLatitude: 15°52'10.31"S; verbatimLongitude: 51°32'58.63"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 484; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Cyperus odoratus* L.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 111 Km from Jussara; verbatimLatitude: 15°56'21.13"S; verbatimLongitude: 51°20'59.27"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 529; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Cyperus pohlii* (Nees) Steud.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Serra do Caiapó, ca. 25 Km (straight line) SW of Caiapônia; verbatimLatitude: 17°06'25.6"S; verbatimLongitude: 51°49'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1973; month: 5; day: 1; recordNumber: 9578; recordedBy: W. R. Anderson; institutionID: The New York Botanical Garden Herbarium; institutionCode: NY

Cyperus schomburgkianus* Nees*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Formoso do Araguaia, Formoso Duere road; verbatimLatitude: 11°47'10.25"S; verbatimLongitude: 49°31'15.88"W; verbatimCoordinateSystem: degree minutes; year: 1994; month: 1; day: 14; recordNumber: 87; recordedBy: M. A. Milaneze; institutionID: Universidade Federal de Pernambuco Herbarium; institutionCode: UFP

Cyperus sphacelatus* Rottb.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, ca. 20 Km West of Redenção; verbatimLatitude: 8°03'00.0"S; verbatimLongitude: 50°10'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 14; recordNumber: 8826; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

Cyperus tenuispica* Steud.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca. 20 Km. South of Xavantina, drainage of the Upper Araguaia River; verbatimLatitude: 14°49'12.0"S; verbatimLongitude: 52°19'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 13; recordNumber: 17095; recordedBy: H.S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

Diplacrum capitatum* (Willd.) Boeck.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9097; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

Eleocharis acutangula* (Roxb.) Schult.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, Km 100; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 26; recordNumber: 186; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis capillacea* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aruanã road, Km 40; verbatimLatitude: 15°52'54.67"S; verbatimLongitude: 51°3'50.48"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 28; recordNumber: 199b; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis filiculmis* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road, cross Jacilândia, 78.2 Km from Jussara; verbatimLatitude: 15°52'54.69"S; verbatimLongitude: 51°3'50.35"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 12; recordNumber: 544; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis interstincta* (Vahl) Roem. & Schult.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Britânia road, Km 20; verbatimLatitude: 15°3'34.38"S; verbatimLongitude: 51°5'54.41"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 14; recordNumber: 291; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis minima* var. *minima* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca 20 Km South of Xavantina, drainage of the upper Araguaia River; verbatimLatitude: 14°49'59.62"S; verbatimLongitude: 52°17'45.74"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 13; recordNumber: 17099; recordedBy: H.S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

Eleocharis minima* var. *bicolor* (Chapm.) Svenson*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road, 22.4 Km from Aruanã; verbatimLatitude: 14°58'48.24"S; verbatimLongitude: 50°53'11.38"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 592; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis nana* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Santa Cruz do Xingu; verbatimLatitude: 10°9'19.14"S; verbatimLongitude: 52°23'30.88"W; verbatimCoordinateSystem: degree minutes; year: 1891-1892; recordNumber: 530; recordedBy: S. Moore; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis nudipes* (Kunth) Palla*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, Km 100; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 26; recordNumber: 185; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis plicarhachis* (Griseb.) Svenson*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, Km 100; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 9; recordNumber: 230b; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis retroflexa* (Poir.) Urb.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 13; recordNumber: 1649; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eleocharis sellowiana* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Alto Araguaia, Sapo stream; verbatimLatitude: 17°18'64"S; verbatimLongitude: 53°13'08"W; verbatimCoordinateSystem: degree minutes; year: 2004; month: 1; day: 14; recordNumber: 1326; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Fimbristylis aestivalis* (Retz.) Vahl*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Mozarlândia-Nova Crixás road; verbatimLatitude: 14°27'00"S; verbatimLongitude: 50°27'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 608 a; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Fimbristylis dichotoma* (L.) Vahl*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 97 Km from Jussara; verbatimLatitude: 15°52'58.60"S; verbatimLongitude: 51°27'18.43"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 510; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Fimbristylis quinquangularis* (Vahl) Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: BR 242, Formoso do Araguaia-São João do Javaés road; verbatimLatitude: 11°47'36"S; verbatimLongitude: 49°43'31"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 15; recordNumber: 1668; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Fuirena umbellata* Rottb.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road cross Jacilândia, 78.2 Km from Jussara; verbatimLatitude: 15°52'54.69"S; verbatimLongitude: 51°3'50.35"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 12; recordNumber: 540; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Kyllinga brevifolia* Rottb.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9111; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

***Kyllinga odorata* Vahl**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia; verbatimLatitude: 11°37'49"S; verbatimLongitude: 50°39'58"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 16; recordNumber: 14254; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Kyllinga vaginata* Lam.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Bom Jesus do Araguaia, MT-433, Serra Nova Dourada, 11.7 Km to BR-158; verbatimLatitude: 12°21'54.7"S; verbatimLongitude: 51°44'24.7"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 12; day: 17; recordNumber: 6518; recordedBy: J. A. Lombardi; institutionID: Universidade Federal de Minas Gerais Herbarium; institutionCode: BHCB

***Lipocarpha chinensis* (Osbeck) J.Kern**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Palestina, GO-221, Km 52; verbatimLatitude: 16°41'50.12"S; verbatimLongitude: 51°25'9.81"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 11;

recordNumber: 1640; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Pycreus lanceolatus* (Poir.) C.B.Clark**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Mozarlândia, GO-164, 16.3 Km North from Mozarlânia; verbatimLatitude: 14°28'27.5"S; verbatimLongitude: 50°28'21.7"W; verbatimCoordinateSystem: degree minutes; year: 2007; month: 1; day: 19; recordNumber: 1830; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Pycreus unioloides* (R.Br.) Urb.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, Km 100; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 518; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Rhynchospora armerioides* J.Presl & C.Presl.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca. 30 Km South of Xavantina, drainage of the Upper Araguaia River; verbatimLatitude: 14°55'12.0"S; verbatimLongitude: 52°19'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 11; recordNumber: 16971; recordedBy: H. S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Rhynchospora barbata* (Vahl) Kunth**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road, Km 4 from Aruanã; verbatimLatitude: 14°56'6.55"S; verbatimLongitude: 51°3'36.79"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 29; recordNumber: 218b; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Rhynchospora brevirostris* Griseb.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Manso River; verbatimLatitude: 14°41'34.73"S; verbatimLongitude: 56°15'49.18"W;

verbatimCoordinateSystem: degree minutes; year: 1911; month: 4; recordNumber: 6931a; recordedBy: F. C. Hoehne; institutionID: Museu Nacional Herbarium; institutionCode: R

***Rhynchospora corymbosa* (L.) Britton**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Mozarlância-Nova Crixás road; verbatimLatitude: 14°27'00"S; verbatimLongitude: 50°27'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 614; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Rhynchospora divaricata* (Ham.) M.T.Strong**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia-Alto da Boa Vista road; verbatimLatitude: 11°36'02.9"S; verbatimLongitude: 51°04'57.0"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 15; recordNumber: 14170; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Rhynchospora exaltata* Kunth**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Ilha do Bananal, National Park of Araguaia; verbatimLatitude: 10°55'12.95"S; verbatimLongitude: 50°11'0.37"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 9; day: 14; recordNumber: 4419; recordedBy: J. A. Ratter; institutionCode: UEC

***Rhynchospora filiformis* Vahl**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia, Pontinópolis town-Serra dos Magalhães road; verbatimLatitude: 11°33'39.4"S; verbatimLongitude: 51°13'00.7"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 21; recordNumber: 14808; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Rhynchospora globosa* (Kunth) Roem. & Schult.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: 12 Km South of Caiapônia; verbatimLatitude: 17°4'6.52"S; verbatimLongitude: 51°51'39.77"W; verbatimCoordinateSystem: degree minutes; year: 1973; month: 5; day: 2; recordNumber:

9652; recordedBy: W. R. Anderson; institutionID: Museu Nacional Herbarium; institutionCode: R

***Rhynchospora hassleri* C.B.Clarke**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9087; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

***Rhynchospora rugosa* (Vahl) Gale**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caiapônia to Jataí road, ca. 30 Km South of Caiapônia, Serra do Caiapó; verbatimLatitude: 17°09'00.0"S; verbatimLongitude: 51°49'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 29; recordNumber: 17969; recordedBy: H. S. Irwin et al.; institutionID: Universidade de Brasília Herbarium; institutionCode: UB

***Rhynchospora tenuis* Link.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca. 75 Km South of Xavantina, drainage of the upper Araguaia River, Serra Azul; verbatimLatitude: 15° 17'14.74"S; verbatimLongitude: 52°10'56.78"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 17; recordNumber: 17309; recordedBy: H.S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Rhynchospora trispicata* (Nees) Schrad. ex Steud.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO-164, 49.5Km, South from Nova Crixás; verbatimLatitude: 14°28'20.27"S; verbatimLongitude: 50° 28'31.05"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 14; recordNumber: 1658; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Rhynchospora aff. unisetosa* T. Koyama**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia, Pontinópolis town -Serra dos Magalhães road; verbatimLatitude: 11°20'02.0"S;

verbatimLongitude: 51°07'48.0"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 21; recordNumber: 14809; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Rhynchospora velutina* (Kunth) Boeck.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Amorinópolis to Verde River road, 40 Km from Amorinópolis, Serra dos Caiapós; verbatimLatitude: 16°37'16"S; verbatimLongitude: 51°5'41"W; verbatimCoordinateSystem: degree minutes; year: 1971; month: 2; day: 20; recordNumber: 6106; recordedBy: A. Rizzo; institutionID: Universidade Federal de Goiás Herbarium; institutionCode: UFG

***Scleria gaertneri* Raddi**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Canga; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36.4"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 13; recordNumber: 1653; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Scleria microcarpa* Nees ex Kunth**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9086; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

***Scleria mitis* P.J.Bergius**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road, cross Jacilândia, 25 Km from Jussara; verbatimLatitude: 15°52'55.13"S; verbatimLongitude: 51°3'50.43"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 12; recordNumber: 564; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eriocaulon araguaiense* A.Oliveira & C.P.Bove*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road, Km 22; verbatimLatitude: 14°58'48.12"S; verbatimLongitude: 50°53'11.62"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 596; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eriocaulon cylindratum* A.Oliveira & C.P.Bove*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Água Boa-Cocalinhos road, 124 Km from Água Boa, Cristalino River; verbatimLatitude: 14°8'58.65"S; verbatimLongitude: 51°32'21.18"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 12; recordNumber: 267; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eriocaulon epapillosum* Ruhland*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Couto Magalhães, Campos Gerais, Araguaia River; verbatimLatitude: 8°16'59.72"S; verbatimLongitude: 49°14'49.53"W; verbatimCoordinateSystem: degree minutes; year: 1953; month: 8; day: 5; recordNumber: 30127; recordedBy: R. L. Fróes; institutionID: Museu Nacional Herbarium; institutionCode: R

Eriocaulon alto-gibbosum* Ruhland*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Barra do Garça, ca. 265 Km along road NNE of village of Xavantina; verbatimLatitude: 12°51'00.0"S; verbatimLongitude: 51°45'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1968; month: 9; day: 5; recordNumber: 8571; recordedBy: G. Eiten & L.Eiten; institutionID: Universidade de Brasília Herbarium; institutionCode: UB

Eriocaulon humboldtii* Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: 15-120 Km beyond Alto Araguaia, road to Cuiabá, Brasilia-Acre Highway; verbatimLatitude: 17°18'39.01"S; verbatimLongitude: 53°13'22.93"W; verbatimCoordinateSystem: degree minutes; year: 1963; month: 8; day: 25; recordNumber: 56270; recordedBy: B. Maguire; institutionID: Universidade de Brasília Herbarium; institutionCode: UB

Eriocaulon setaceum L.

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: BR 242, Formoso do Araguaia- São João do Javaés Highway; verbatimLatitude: 11°47'36"S; verbatimLongitude: 49°43'31"W; verbatimCoordinateSystem: degree minutes; year: 2004; month: 6; day: 15; recordNumber: 1679; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Comanthera xeranthemoides (Bong.) L. R. Parra & Giul.

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caiapônia-Piranhas road, 30 Km from Caiapônia, dam of Samambaia farm; verbatimLatitude: 16°42'27.83"S; verbatimLongitude: 51°40'50.90"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 18; recordNumber: 657; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Paepalanthus viridis Körn.

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caiapônia, Bela Vista farm; verbatimLatitude: 16°57'15.57"S; verbatimLongitude: 51°48'34.36"W; verbatimCoordinateSystem: degree minutes; year: 1995; month: 4; day: 30; recordNumber: 305; recordedBy: R. César; institutionID: Universidade Federal de Goiás Herbarium; institutionCode: UFG

Syngonanthus caulescens (Poir.) Ruhland

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, Km 100; verbatimLatitude: 14°49'10"S; verbatimLongitude: 50°58'36"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 6; day: 26; recordNumber: 166; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Syngonanthus densiflorus (Körn.) Ruhland

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Barra do Garças, ca. 30 Km South of Xavantina, drainage of the upper Araguaia River; verbatimLatitude: 15°53'25.1"S; verbatimLongitude: 52°15'24.1"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 12; recordNumber: 17022; recordedBy: H. S. Irwin; institutionID: The New York Botanical Garden Herbarium; institutionCode: NY

Syngonanthus gracilis* (Bong.) Ruhland*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caiapônia-Iporá; verbatimLatitude: 16°57'15.57"S; verbatimLongitude: 51°48'34.36"W; verbatimCoordinateSystem: degree minutes; year: 1995; month: 4; day: 30; recordNumber: 304; recordedBy: R. César; institutionID: Museu Nacional Herbarium; institutionCode: R

Syngonanthus helminthorhizus* (Mart.) Ruhland*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: 30 km from Caiapônia, dam of Samambaia farm; verbatimLatitude: 16°42'27.83"S; verbatimLongitude: 51°40'50.90"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 18; recordNumber: 659; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Syngonanthus humboldtii* (Kunth) Ruhland*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Sandolândia, Araguaia River basin, Javaés River; verbatimLatitude: 12°29'29.0"S; verbatimLongitude: 50°06'42.0"W; verbatimCoordinateSystem: degree minutes; year: 2009; month: 7; day: 12; recordNumber: 1636; recordedBy: F.C.A. Oliveira; institutionID: Universidade Estadual de Feira de Santana Herbarium; institutionCode: HUEFS

Syngonanthus nitens* (Bong.) Ruhland*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia, bridge over Babilônia River; verbatimLatitude: 17°19'30"S; verbatimLongitude: 53°12'18"W; verbatimCoordinateSystem: degree minutes; year: 2000; month: 3; day: 29; recordNumber: 266; recordedBy: D.M.S. Rocha; institutionID: Universidade de Brasília Herbarium; institutionCode: UB

Syngonanthus longipes* Gleason*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Alto Araguaia, Sapo stream; verbatimLatitude: 17°18'64"S; verbatimLongitude: 53°13'08"W; verbatimCoordinateSystem: degree minutes; year: 1974; month: 11; day: 21; recordNumber: 35034; recordedBy: G. Hatschbach; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Tonina fluviatilis* Aubl.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9122; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Heliconia psittacorum* L.f.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'39.52"S; verbatimLongitude: 51°26'14.56"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 12; recordNumber: 1642; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Elodea granatensis* Humb. & Bonpl.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Goiânia road; verbatimLatitude: 14°55'19.68"S; verbatimLongitude: 51°4'21.89"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 29; recordNumber: 224; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Egeria heterostemon* S.Koehler & C.P.Bove**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Goiânia road; verbatimLatitude: 14°55'19.68"S; verbatimLongitude: 51°4'21.89"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 5; day: 29; recordNumber: 225; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Najas affinis* Rendle**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Água Boa-Cocalinho road; verbatimLatitude: 14°06'08"S; verbatimLongitude: 51°40'20"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 12; recordNumber: 260; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Ottelia brasiliensis* (Planch.) Walp.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road; verbatimLatitude: 15°53'53"S; verbatimLongitude: 52°13'21"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 6; day: 26; recordNumber: 191; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Thalia geniculata* L.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road; verbatimLatitude: 14°58'00"S; verbatimLongitude: 50°52'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 603; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Mayaca fluviatilis* Aubl.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: 30 Km from Caiapônia, Abóbora waterfall; verbatimLatitude: 16°42'27.83"S; verbatimLongitude: 51°40'50.90"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 18; recordNumber: 653; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Mayaca longipes* Mart. ex Seub.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara- Britânia road, 62.6 Km from Jussara, Pindaíba stream; verbatimLatitude: 15°33'10.31"S; verbatimLongitude: 51°14'24.05"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 14; recordNumber: 583; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Mayaca madida* (Vell.) Stellfeld*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: BR-158, 5 Km from Água Boa; verbatimLatitude: 14°05'38"S; verbatimLongitude: 52°09'53"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 10; recordNumber: 248; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Bletia catenulata* Ruiz & Pav.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia, Babilônia River, next to the bridge; verbatimLatitude: 17°19'33"S; verbatimLongitude: 53°12'11"W; verbatimCoordinateSystem: degree minutes; year: 2000; month: 3; day: 22; recordNumber: s.n.; recordedBy: D. M. S. Rocha; institutionID: Universidade de Brasília Herbarium; institutionCode: UB (15590)

Epidendrum densiflorum* Hook.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Santana do Araguaia, Redenção-Barreiras dos Campos road, PA-150, 100 Km South of Redenção; verbatimLatitude: 8°45'00.0"S; verbatimLongitude: 50°25'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 18; recordNumber: 8857; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

Habenaria macilenta* (Lindl. ex Benth.) Rchb.f.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: São Miguel do Araguaia- Luis Alves Tocantins road, ca. 33 Km from São Miguel do Araguaia; verbatimLatitude: 13°17'15.45"S; verbatimLongitude: 50°27'54.15"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 2; day: 15; recordNumber: s.n.; recordedBy: R. S. Oliveira; institutionID: Universidade de Brasília Herbarium; institutionCode: (UB 19881)

Habenaria orchiocalcar* Hoehne*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: São Miguel do Araguaia- Luis Alves Tocantins road, ca. 33 Km from São Miguel do Araguaia; verbatimLatitude: 13°17'15.45"S; verbatimLongitude: 50°27'54.15"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 2; day: 15; recordNumber: s.n.; recordedBy: R. S. Oliveira; institutionID: Universidade de Brasília Herbarium; institutionCode: (UB 19882)

Habenaria spathulifera* Cogn.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Drainage of the upper Araguaia River; verbatimLatitude: 17°18'56.81"S; verbatimLongitude: 53°13'6.96"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 13;

recordNumber: 17084; recordedBy: H. S. Irwin; institutionID: Instituto de Botânica Herbarium; institutionCode: SP

***Acroceras fluminense* (Hack.) Zuloaga & Morrone**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, West of Redencão near São João stream; verbatimLatitude: 8°3'S; verbatimLongitude: 50°10'W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 10; recordNumber: 8647; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Andropogon lateralis* Nees**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: BR 364, ca. 90 Km of border of Goiás/Mato Grosso, road to Cuiabá; verbatimLatitude: 16°49'51.82"S; verbatimLongitude: 53°59'59.29"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 11; day: 26; recordNumber: 657; recordedBy: A. Zanin; institutionID: Universidade de Santa Catarina Herbarium; institutionCode: FLOR

***Andropogon leucostachyus* Kunth**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: road to Mata do Coco, 14 Km North from Luciara; verbatimLatitude: 11°04'50.9"S; verbatimLongitude: 50°26'04.2"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 19; recordNumber: 14556; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Digitaria ciliaris* (Retz.) Koeler**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Luiz Alves; verbatimLatitude: 26°42'37"S; verbatimLongitude: 48°54'42.52"W; verbatimCoordinateSystem: degree minutes; recordNumber: s.n.; recordedBy: H. D. Ferreira; institutionID: Universidade Federal de Goiás Herbarium; institutionCode: (UFG 13986)

***Digitaria filiformis* (L.) Kaler**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road; verbatimLatitude: 15°53'53"S; verbatimLongitude: 52°13'21"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11;

recordNumber: 499; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Echinochloa colona* (L.) Link**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Formoso do Araguaia-São João do Javaés road; verbatimLatitude: 11°47'36"S; verbatimLongitude: 49°43'31"W; verbatimCoordinateSystem: degree minutes; year: 2004; month: 6; day: 15; recordNumber: 1670; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Echinochloa crus-galli* (L.) P.Beauv.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia -Alto da Boa Vista road, ca. 9 Km from São Félix do Araguaia; verbatimLatitude: 11°37'58.0"S; verbatimLongitude: 50°46'34.0"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 26; recordNumber: 14471; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Eleusine indica* (L.) Gaertn.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Piranhas, Drainage of the Upper Araguaia River; verbatimLatitude: 16°31'48.0"S; verbatimLongitude: 51°51'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 23; recordNumber: 17677; recordedBy: H. S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Eragrostis japonica* (Thunb.) Trin.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Luiz Alves; verbatimLatitude: 26°42'37"S; verbatimLongitude: 48°54'42.52"W; verbatimCoordinateSystem: degree minutes; recordNumber: s. n.; recordedBy: H. D. Ferreira; institutionID: Universidade Federal de Goiás Herbarium; institutionCode: (UFG 13985)

***Eragrostis rufescens* Schult.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Novo Santo Antônio, State Park of Araguaia, Silvana farm; verbatimLatitude: 12°17'26"S; verbatimLongitude: 50°58'05"W; verbatimCoordinateSystem: degree minutes; year: 2005;

month: 6; day: 5; recordNumber: 134; recordedBy: H. Jancoski; institutionID: Universidade Federal do Mato Grosso do Sul; institutionCode: CGMS

***Eriochrysis cayennensis* P. Beauv.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia, bridge over Babilônia River; verbatimLatitude: 17°19'33"S; verbatimLongitude: 53°12'11"W; verbatimCoordinateSystem: degree minutes; year: 2000; month: 3; day: 29; recordNumber: 278; recordedBy: D. M. S. Rocha; institutionID: Universidade de Brasília Herbarium; institutionCode: UB

***Hymenachne amplexicaulis* (Rudge) Nees**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO-334, road to Peixe; verbatimLatitude: 14°52'27"S; verbatimLongitude: 50°30'16"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 16; recordNumber: 629; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Mesosetum cf. loliiforme* (Steud.) Hitchc.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia, Pontinópolis town-Serra dos Magalhães road; verbatimLatitude: 11°20'02.0"S; verbatimLongitude: 51°07'48.0"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 21; recordNumber: 14803; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Ichnanthus procurrens* (Nees ex Trin.) Swallen**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO-184, South of Nova Crixás; verbatimLatitude: 18°01'21"S; verbatimLongitude: 51°49'37"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 14; recordNumber: 1664; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Isachne polygonoides* (Lam.) Döll**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: 30 Km from Caiapônia; verbatimLatitude: 16°57'64"S; verbatimLongitude: 51°48'27"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 18;

recordNumber: 651; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Luziola peruviana* Juss ex J.F. Gmel.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Barra do Garças-Água Boa road; verbatimLatitude: 15°53'36.60"S; verbatimLongitude: 52°15'47.19"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 10; recordNumber: 247; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Panicum cyanescens* Nees ex Trin.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9103; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Panicum discrepans* Döll**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road; verbatimLatitude: 14°58'00"S; verbatimLongitude: 50°52'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 587A; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Panicum latissimum* J.G.Mikan ex Trin.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9107; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

***Panicum parvifolium* Lam.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Britânia road; verbatimLatitude: 15°52'29.02"S; verbatimLongitude: 50°51'50.59"W;

verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11;
recordNumber: 557; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional
Herbarium; institutionCode: R

***Panicum repens* Berg.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road; verbatimLatitude: 15°53'53"S; verbatimLongitude: 52°13'21"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 502; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Panicum schwackeanum* Mez.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO-184, South of Nova Crixás; verbatimLatitude: 18°01'21"S; verbatimLongitude: 51°49'37"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 11; recordNumber: 1663; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Panicum stenodes* Griseb.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca. 30 Km South of Xavantina, drainage of the Upper Araguaia River; verbatimLatitude: 14°55'12.0"S; verbatimLongitude: 52°19'12.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 12; recordNumber: 17016; recordedBy: H.S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Panicum trichoides* Sw.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia-Alto da Boa Vista road, ca. 9 Km from São Félix do Araguaia; verbatimLatitude: 11°22'32.9"S; verbatimLongitude: 50°27'48.2"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 18; recordNumber: 14466; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Paspalum cinerascens* (Döll) A.G.Burm. & M.Bastos**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S;

verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9098; recordedBy: T. Plowman et al.; institutionID: Instituto Nacional de Pesquisas da Amazonia Herbarium; institutionCode: INPA

***Paspalum convexum* Humb. & Bonpl. ex Flüggé**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Piranhas, drainage of the Upper Araguaia River; verbatimLatitude: 16°31'48.0"S; verbatimLongitude: 51°51'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 23; recordNumber: 17676; recordedBy: H. S. Irwin et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Paspalum gardnerianum* Nees**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Pontinópolis town-Serra dos Magalhães, road; verbatimLatitude: 11°33'39.4"S; verbatimLongitude: 51°13'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; recordNumber: 14805; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

***Paspalum glaucescens* Hack.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia; verbatimLatitude: 17°19'33"S; verbatimLongitude: 53°12'11"W; verbatimCoordinateSystem: degree minutes; year: 1930; month: 4; day: 15; recordNumber: 12055; recordedBy: A. Chase; institutionID: Jardim Botânico do Rio de Janeiro Herbarium; institutionCode: RB

***Paspalum maritimum* Trin.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, 2 Km West of town, along highway PA-287; verbatimLatitude: 8°15'00.0"S; verbatimLongitude: 49°18'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 24; recordNumber: 9104; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

Paspalum marmoratum* Kuhlm.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia; verbatimLatitude: 17°19'33"S; verbatimLongitude: 53°12'11"W; verbatimCoordinateSystem: degree minutes; year: 1930; month: 4; day: 7; recordNumber: 11866; recordedBy: A. Chase; institutionID: Museu Nacional Herbarium; institutionCode: R

Paspalum pictum* Eckm.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia; verbatimLatitude: 17°19'33"S; verbatimLongitude: 53°12'11"W; verbatimCoordinateSystem: degree minutes; year: 1930; month: 4; day: 15; recordNumber: 12045; recordedBy: A. Chase; institutionID: Museu Nacional Herbarium; institutionCode: R

Paspalum repens* Berg.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Mozarlândia-Nova Crixás road; verbatimLatitude: 14°27'00"S; verbatimLongitude: 50°27'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 611; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Paspalum trichotomum* Hack.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Santa Rita do Araguaia, Congolha River; verbatimLatitude: 17°19'33"S; verbatimLongitude: 53°12'11"W; verbatimCoordinateSystem: degree minutes; year: 1930; month: 4; day: 7; recordNumber: 1182; recordedBy: A. Chase; institutionID: Jardim Botânico do Rio de Janeiro Herbarium; institutionCode: RB

Reimarochoa acuta* (Fluggé) Hitchc.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Araguapaz road; verbatimLatitude: 14°58'00"S; verbatimLongitude: 50°52'00"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 15; recordNumber: 587b; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Sacciolepis vilvooides* (Trin.) Chase**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Novo Santo Antônio, State Park of Araguaia. Silvana farm; verbatimLatitude: 12°17'26"S; verbatimLongitude: 50°58'05"W; verbatimCoordinateSystem: degree minutes; year: 2005; month: 6; day: 5; recordNumber: 140; recordedBy: H. Jancoski; institutionID: Universidade Federal do Mato Grosso do Sul; institutionCode: CGMS

***Setaria parviflora* (Poir.) M.Kerguelen**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Pará; locality: Conceição do Araguaia, ca. 20 Km West of Redenção, near São João stream; verbatimLatitude: 8°03'00.0"S; verbatimLongitude: 50°10'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1980; month: 2; day: 12; recordNumber: 8768; recordedBy: T. Plowman et al.; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Steinchisma decipiens* (Nees ex Trin.) W.V.Br.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, ca. 100 Km West from Jussara; verbatimLatitude: 15°52'36"S; verbatimLongitude: 51°49'31"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 11; recordNumber: 516; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Steinchisma laxum* (Sw.) Zuloaga**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Aruanã-Canga road; verbatimLatitude: 14°44'38.8"S; verbatimLongitude: 50°56'34.81"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 13; recordNumber: 1648; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Thrasya thrasyoides* (Trin.) Chase**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia, ca. 31 Km WNW of São Félix do Araguaia, road to Luciara; verbatimLatitude: 11°35'19"S; verbatimLongitude: 50°54'26"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 20; recordNumber: 14695; recordedBy: V. C. Souza et al.; institutionID: Universidade de São Paulo Herbarium; institutionCode: ESA

Eichhornia azurea* (Sw.) Kunth*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Alvorada-Peixe road; verbatimLatitude: 12°29'46"S; verbatimLongitude: 49°00'51"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 16; recordNumber: 1799; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eichhornia crassipes* (Mart.) Solms*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road; verbatimLatitude: 15°53'53"S; verbatimLongitude: 52°13'21"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 9; recordNumber: 245; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Eichhornia diversifolia* (Vahl) Urb.*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Alvorada-Peixe road; verbatimLatitude: 12°29'46"S; verbatimLongitude: 40°00'50"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 16; recordNumber: 1692; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Pontederia parviflora* Alexander*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Alvorada-Peixe road; verbatimLatitude: 12°29'46.3"S; verbatimLongitude: 49°00'50"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 16; recordNumber: 1688; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Pontederia subovata* (Seub.) Lowden*Material**

- a. country: Brazil; countryCode: BRA; stateProvince: Tocantins; locality: Alvorada-Peixe road; verbatimLatitude: 12°29'46.3"S; verbatimLongitude: 49°00'50"W; verbatimCoordinateSystem: degree minutes; year: 2006; month: 4; day: 16; recordNumber: 1690; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Cephalostemon gracilis* (Poepp. & Endl.) R.H.Schomb.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Alto Araguaia, Sapo stream; verbatimLatitude: 17°18'64"S; verbatimLongitude: 53°13'08"W; verbatimCoordinateSystem: degree minutes; year: 2004; month: 1; day: 14; recordNumber: 1323; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Typha domingensis* Pers.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: GO-334, road to Peixe, 8.8 Km from GO-164; verbatimLatitude: 14°52'27"S; verbatimLongitude: 50°30'16"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 16; recordNumber: 616; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Abolboda pulchella* Bonpl.**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: São Félix do Araguaia, ca. 13 Km, after entrance to Luciara.; verbatimLatitude: 11°34'21"S; verbatimLongitude: 50°59'13"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 3; day: 15; recordNumber: 14163; recordedBy: V. C. Souza; institutionID: Universidade Estadual de Campinas Herbarium; institutionCode: UEC

***Xyris caroliniana* Walter**

Material

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: ca. 70 Km South of Xavantina, drainage of the Upper Araguaia River; verbatimLatitude: 15°16'12.0"S; verbatimLongitude: 52°15'00.0"W; verbatimCoordinateSystem: degree minutes; year: 1966; month: 6; day: 19; recordNumber: 17473; recordedBy: H. S. Irwin; institutionID: The New York Botanical Garden Herbarium; institutionCode: NY

***Xyris fragilis* Kral & Lor.B.Sm.**

Material

Isotype:

- a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Barra do Garcas, 260 Km along new road NNE of village of Xavantina, Serra do Roncador; verbatimLatitude: 15°53'42"S; verbatimLongitude: 52°15'18"W; verbatimCoordinateSystem: degree minutes; year: 1968; month: 9; day: 5; recordNumber:

8572; recordedBy: G. Eiten & L. T. Eiten; institutionID: Missouri Botanical Garden Herbarium; institutionCode: MO

***Xyris jupicai* Rich.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Jussara-Aragarças road, 100 Km from Jussara; verbatimLatitude: 15°53'19.94"S; verbatimLongitude: 51°18'19.02"W; verbatimCoordinateSystem: degree minutes; year: 1997; month: 10; day: 9; recordNumber: 227; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Xyris savanensis* Miq.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Caiapônia to Piranhas road, 30 Km from Caiapônia; verbatimLatitude: 16°47'12"S; verbatimLongitude: 51°43'16"W; verbatimCoordinateSystem: degree minutes; year: 1999; month: 11; day: 18; recordNumber: 664; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

***Xyris tenella* Kunth**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: 40 Km from Amorinópolis, Verde River, Serra dos Caiapós; verbatimLatitude: 16°37'16"S; verbatimLongitude: 51°5'41"W; verbatimCoordinateSystem: degree minutes; year: 1971; month: 4; day: 17; recordNumber: 6237a; recordedBy: J. A. Rizzo & A. Barbosa; institutionID: Universidade Federal de Goiás Herbarium; institutionCode: UFG

***Xyris tortula* Mart.**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Mato Grosso; locality: Alto Araguaia, Rancho stream; verbatimLatitude: 17°14'55"S; verbatimLongitude: 53°15'00"W; verbatimCoordinateSystem: degree minutes; year: 1974; month: 2; day: 14; recordNumber: 34211; recordedBy: G. Hatschbach; institutionID: Universidade Estadual de Campinas Herbarium; institutionCode: UEC

***Hedychium coronarium* J. König**

Material

a. country: Brazil; countryCode: BRA; stateProvince: Goiás; locality: Iporá-São Luiz dos Montes Belos road, GO-060, 45.8 Km from Iporá; verbatimLatitude: 16°41'51"S; verbatimLongitude: 50°45'10"W; verbatimCoordinateSystem: degree minutes; year: 1999;

month: 11; day: 19; recordNumber: 676; recordedBy: C. P. Bove et al.; institutionID: Museu Nacional Herbarium; institutionCode: R

Discussion

We report 162 species of aquatic and marshy monocotyledons, distributed in 20 families and 50 genera (Table 1). Cyperaceae (51 spp.) (Fig. 2b), Poaceae (39 spp.) (Figs 2a, 3) and Eriocaulaceae (16 spp.) (Figs 4, 5, 6) are the most common families of this class. Among the monocots, the first two families are the most diverse in both aquatic and terrestrial ecosystems in Brazil (e.g. Moura-Júnior et al. 2013, Souza et al. 2009, Wanderley et al. 2011). Nonetheless, Eriocaulaceae has its greatest diversity in the Cerrado (e.g. IBGE 2004, Munhoz and Felfili 2006). Regarding life form, most plants are helophytes (98 spp.; 60.5%) or emergents (45 spp.; 27.8%); nine species floating (5.5%), six species emergent and/or submerged (3.7%), and four species are exclusively submerged (2.5%) (Table 1). The life form categories represent different degrees of adaptation to aquatic life and are widely convergent among aquatic angiosperms (Philbrick and Les 1996); so the high percentage of helophytes and emergent forms are expected for temporarily flooded swamps, pools and their margins.

Table 1.

Checklist of hydrophytic Monocots from the Araguaia River basin. Species found in consulted herbaria (Sh); species found in Species Link (Ss); new occurrences to Araguaia River basin (NoA); new occurrences to Cerrado (NoC); geographic distribution (Gd): A Americas, B Brazil, W Worldwide; Life forms (Lf): He Helophytes, Em emergent, Ff Floating-fixed, Fr floating-free, Sf submerged-fixed.

Family	Species	Lf	Gd	NoA	NoC	Sh	Ss
Alismataceae	<i>Echinodorus longipetalus</i> Mich.	Em	A			+	+
	<i>E. subalatus</i> (Mart. ex Schult. f.) Griseb.	Em	A			+	
	<i>Helanthium boliviannum</i> (Rusby) Lehtonen & Myllys	Em /Sf	A			+	+
	<i>H. tenellum</i> (Mart. ex Schult.f.) J.G.Sm.	Em /Sf	A			+	
	<i>Hydrocleys nymphoides</i> (Willd.) Buchenau	Ff	A			+	
	<i>H. parviflora</i> Seub.	Ff	A			+	
	<i>Limnocharis laforestii</i> Griseb.	Em	A			+	
	<i>Sagittaria guayanensis</i> Kunth	Fr	W			+	+
	<i>S. rhombifolia</i> Cham.	Em	A			+	+
Araceae	<i>Anthurium lindmanianum</i> Engl.	He	B	+		+	+
	<i>Dieffenbachia aglaonematifolia</i> Engl.	He	A	+			+
	<i>D. seguine</i> (Jacq.) Schott	He	A	+			+
	<i>Gearum brasiliense</i> N.E.Br.	He	B				+
	<i>Philodendron imbe</i> Schott	He	B	+	+		+

	<i>P. quinquenervium</i> Miq.	He	A	+	+	+
	<i>Urospatha sagittifolia</i> (Rudge) Schott	He	A		+	+
	<i>Xanthosoma striatipes</i> (Kunth & C.D.Bouché) Madison	He	A	+	+	+
Arecaceae	<i>Desmoncus polyacanthos</i> Mart.	He	A	+		+
	<i>Syagrus petraea</i> (Mart.) Becc.	He	A	+		+
Burmanniaceae	<i>Apteris aphylla</i> (Nutt.) Barnhart ex Small	He	A		+	
	<i>Burmannia capitata</i> (Walter ex J.F.Gmel.) Mart.	He	A	+	+	+
	<i>B. flava</i> Mart.	He	A		+	+
Cannaceae	<i>Canna indica</i> L.	He	A		+	
Commelinaceae	<i>Commelina erecta</i> L.	He	W		+	
	<i>Commelina diffusa</i> Burm. f.	He	W	+	+	
	<i>C. obliqua</i> Vahl	He	A		+	
Costaceae	<i>Costus spiralis</i> (Jacq.) Roscoe	Em	A		+	+
Cyperaceae	<i>Ascolepis brasiliensis</i> (Kunth) Benth. ex C.B. Clarke	Em	W		+	+
	<i>Bulbostylis stenocarpa</i> Kük.	He	A	+		+
	<i>Calyptrocarya glomerulata</i> (Brongn.) Urb.	Em	A		+	+
	<i>Cyperus diffusus</i> Vahl	He	W	+		+
	<i>C. digitatus</i> Roxb.	Em	W		+	
	<i>C. giganteus</i> Vahl	Em	A	+		+
	<i>C. haspan</i> L.	Em	W		+	+
	<i>C. odoratus</i> L.	He	W		+	+
	<i>C. pohlii</i> (Nees) Steud.	Em	A	+		+
	<i>C. schomburgkianus</i> Nees	He	A	+		+
	<i>C. sphacelatus</i> Rottb.	He	W	+		+
	<i>C. tenuispica</i> Steud.	He	W	+		+
	<i>Diplacrum capitatum</i> (Willd.) Boeck.	Em	A	+		+
	<i>Eleocharis acutangula</i> (Roxb.) Schult.	Em	W		+	
	<i>E. capillacea</i> Kunth	Em/Sf	A		+	
	<i>E. filiculmis</i> Kunth	Em	A		+	+
	<i>E. interstincta</i> (Vahl) Roem. & Schult.	Em	A		+	
	<i>E. minima</i> var. <i>minima</i> Kunth	Em/Sf	A	+		+
	<i>E. minima</i> var. <i>bicolor</i> (Chapm.) Svenson	Em/Sf	A		+	
	<i>E. nana</i> Kunth	Em	A		+	
	<i>E. nudipes</i> (Kunth) Palla	Em	A		+	
	<i>E. plicarhachis</i> (Griseb.) Svenson	Em	A		+	
	<i>E. retroflexa</i> (Poir.) Urb.	Em	W		+	
	<i>E. sellowiana</i> Kunth	Em	A		+	

	<i>Fimbristylis aestivalis</i> (Retz.) Vahl	Em	W		+	+
	<i>F. dichotoma</i> (L.) Vahl	Em	W		+	
	<i>F. quinquangularis</i> (Vahl) Kunth	Em	W		+	
	<i>Fuirena umbellata</i> Rottb.	Em	W		+	+
	<i>Kyllinga brevifolia</i> Rottb.	Em	W	+		+
	<i>K. odorata</i> Vahl	Em	W			+
	<i>K. vaginata</i> Lam	He	W	+		+
	<i>Lipocarpha chinensis</i> (Osbeck) J.Kern	Em	W		+	+
	<i>Pycreus lanceolatus</i> (Poir.) C.B.Clark	He	W		+	+
	<i>P. unioloides</i> (R.Br.) Urb.	He	W		+	+
	<i>Rhynchospora armerioides</i> J.Presl & C.Presl.	He	A			+
	<i>R. barbata</i> (Vahl) Kunth	He	A		+	+
	<i>R. brevirostris</i> Griseb.	He	W		+	+
	<i>R. corymbosa</i> (L.) Britton	Em	W		+	
	<i>R. divaricata</i> (Ham.) M.T.Strong	Em	A	+		+
	<i>R. exaltata</i> Kunth	He	A			+
	<i>R. filiformis</i> Vahl	He	A	+		+
	<i>R. globosa</i> (Kunth) Roem. & Schult.	Em	A		+	+
	<i>R. hassleri</i> C.B.Clarke	Em	A	+		+
	<i>R. rugosa</i> (Vahl) Gale	He	W		+	+
	<i>R. tenuis</i> Link.	Em	A			+
	<i>R. trispicata</i> (Nees) Schrad. ex Steud.	Em	A		+	+
	<i>R. aff. unisetosa</i> T. Koyama	He	A	+	+	+
	<i>R. velutina</i> (Kunth) Boeck.	Em	A			+
	<i>Scleria gaertneri</i> Raddi	He	W		+	+
	<i>S. microcarpa</i> Nees ex Kunth	Em	A	+		+
	<i>S. mitis</i> P.J.Bergius	He	A			+
Eriocaulaceae	<i>E. alto-gibbo</i> sum Ruhland	Em	B	+		+
	<i>Eriocaulon araguaiense</i> A.Oliveira & C.P.Bove	Em	B			+
	<i>E. cylindratum</i> A.Oliveira & C.P.Bove	Em	B			+
	<i>E. epapillosum</i> Ruhland	He	B	+		+
	<i>E. humboldtii</i> Kunth	Em	B			+
	<i>E. setaceum</i> L.	Em/Sf	B			+
	<i>Comanthera. xeranthemoides</i> (Bong.) L.R. Parra & Giul.	He	B			+
	<i>Paepalanthus viridis</i> Körn.	He	B	+		+
	<i>Syngonanthus caulescens</i> (Poir.) Ruhland	He	B		+	+
	<i>S. densiflorus</i> (Körn.) Ruhland	Em	A			+

	<i>S. gracilis</i> (Bong.) Ruhland	He	B		+
	<i>S. helminthorhizus</i> (Mart.) Ruhland	He	B	+	+
	<i>S. humboldtii</i> (Kunth) Ruhland	Em	A	+	+
	<i>S. longipes</i> Gleason	Em	A		+
	<i>S. nitens</i> (Bong.) Ruhland	He	A		+
	<i>Tonina fluviatilis</i> Aubl.	Sf	A		+
Heliconiaceae	<i>Heliconia psittacorum</i> L.f.	He	B		+
Hydrocharitaceae	<i>Elodea granatensis</i> Humb. & Bonpl.	Sf	A	+	+
	<i>Egeria heterostemon</i> S.Koehler & C.P.Bove	Sf	B	+	+
	<i>Najas affinis</i> Rendle	Fr/Ff	W	+	+
	<i>Ottelia brasiliensis</i> (Planch.) Walp.	Sf	A	+	+
Marantaceae	<i>Thalia geniculata</i> L.	He	W	+	+
Mayacaceae	<i>Mayaca fluviatilis</i> Aubl.	He	A	+	+
	<i>M. longipes</i> Mart. ex Seub.	He	A	+	+
	<i>M. madida</i> (Vell.) Stellfeld	He	A	+	+
Orchidaceae	<i>Bletia catenulata</i> Ruiz & Pav.	He	A	+	+
	<i>Epidendrum densiflorum</i> Hook.	He	A	+	+
	<i>Habenaria macilenta</i> (Lindl. ex Benth.) Rchb.f.	He	A	+	+
	<i>H. orchiocalcar</i> Hoehne	He	B	+	+
	<i>H. spathulifera</i> Cogn.	He	A	+	+
Poaceae	<i>Acroceras fluminense</i> (Hack.) Zuloaga & Morrone	He	A	+	+
	<i>Andropogon lateralis</i> Nees	He	A	+	+
	<i>A. leucostachyus</i> Kunth	He	A	+	+
	<i>Digitaria ciliaris</i> (Retz.) Koeler	He	W	+	+
	<i>D. filiformis</i> (L.) Kaler	He	A		+
	<i>Echinochloa colona</i> (L.) Link	He	W	+	+
	<i>E. crus-galli</i> (L.) P.Beauv.	He	W	+	+
	<i>Eleusine indica</i> (L.) Gaertn.	He	W	+	+
	<i>Eragrostis japonica</i> (Thunb.) Trin.	He	W	+	+
	<i>E. rufescens</i> Schult.	He	A	+	+
	<i>Eriochrysis cayennensis</i> P. Beauv.	He	A	+	+
	<i>Hymenachne amplexicaulis</i> (Rudge) Nees	He	A	+	+
	<i>Mesosetum cf. loliiforme</i> (Steud.) Hitchc.	He	A	+	+
	<i>Ichnanthus procurrens</i> (Nees ex Trin.) Swallen	He	A	+	+
	<i>Isachne polygonoides</i> (Lam.) Döll	He	W	+	+
	<i>Luziola peruviana</i> Juss ex J.F. Gmel.	He	W	+	+
	<i>Panicum cyanescens</i> Nees ex Trin.	He	A	+	+

	<i>P. discrepans</i> Döll	He	A	+		+
	<i>P. latissimum</i> J.G.Mikan ex Trin.	He	B	+	+	+
	<i>P. parvifolium</i> Lam.	He	W	+	+	+
	<i>P. repens</i> Berg.	He	W	+	+	
	<i>P. schwackeanum</i> Mez.	He	A	+	+	
	<i>P. stenodes</i> Griseb.	He	A	+		+
	<i>P. trichoides</i> Sw.	He	A	+		+
	<i>Paspalum cinerascens</i> (Döll) A.G.Burm. & M.Bastos	He	A	+		+
	<i>P. convexum</i> Humb. & Bonpl. ex Flüggé	He	A	+		+
	<i>P. gardnerianum</i> Nees	He	A	+		+
	<i>P. glaucescens</i> Hack.	He	A	+		+
	<i>P. maritimum</i> Trin.	He	A	+		+
	<i>P. marmoratum</i> Kuhlm.	He	A	+	+	
	<i>P. pictum</i> Eckm.	He	A	+	+	+
	<i>P. repens</i> Berg.	He	A	+	+	+
	<i>P. trichotomum</i> Hack.	He	B	+		+
	<i>Reimarocholoa acuta</i> (Flüggé) Hitchc.	He	A	+	+	
	<i>Sacciolepis vilvooides</i> (Trin.) Chase	He	A	+		+
	<i>Setaria parviflora</i> (Poir.) M.Kerguelen	He	A	+		+
	<i>Steinchisma decipiens</i> (Nees ex Trin.) W.V.Br.	Em	A	+	+	
	<i>S. laxum</i> (Sw.) Zuloaga	He	W	+		+
	<i>Thrasya thrasyoides</i> (Trin.) Chase	He	A	+		+
Pontederiaceae	<i>Eichhornia azurea</i> (Sw.) Kunth	Ff	A	+	+	
	<i>E. crassipes</i> (Mart.) Solms	Fr/ Ff	A		+	
	<i>E. diversifolia</i> (Vahl) Urb.	Ff	A		+	
	<i>Pontederia parviflora</i> Alexander	Ff	A	+	+	
	<i>P. subovata</i> (Seub.) Lowden	Ff	A		+	
Rapateaceae	<i>Cephalostemon gracilis</i> (Poepp. & Endl.) R.H.Schomb.	Em	B	+	+	+
Typhaceae	<i>Typha domingensis</i> Pers.	He	W	+	+	+
Xyridaceae	<i>Abolboda pulchella</i> Bonpl.	He	A	+		+
	<i>Xyris caroliniana</i> Walter	He	A	+		+
	<i>X. fragilis</i> Kral & Lor.B.Sm.	Em	B	+		+
	<i>X. jupicai</i> Rich.	He	A	+	+	+
	<i>X. savanensis</i> Miq.	He	A	+	+	+
	<i>X. tenella</i> Kunth	He	A	+		+
	<i>X. tortula</i> Mart.	He	A	+		+
Zingiberaceae	<i>Hedychium coronarium</i> J.König	He	W	+	+	

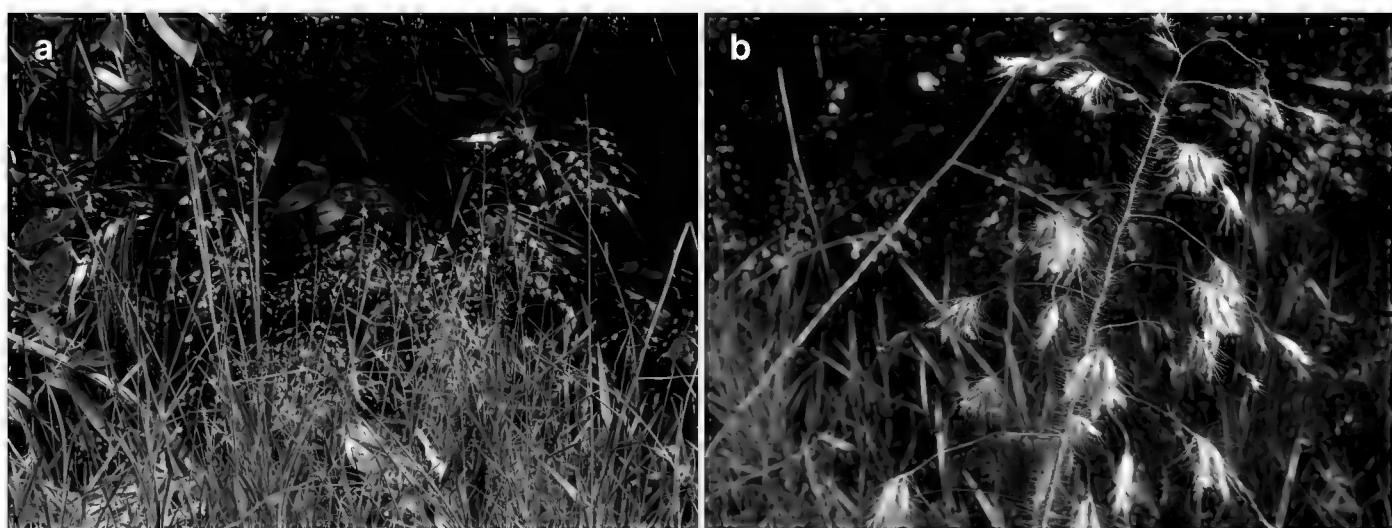


Figure 3.

Ichnanthus procurrens (Nees ex Trin.) Swallen C.P. Bove et al. 1664

a: habit

b: inflorescence

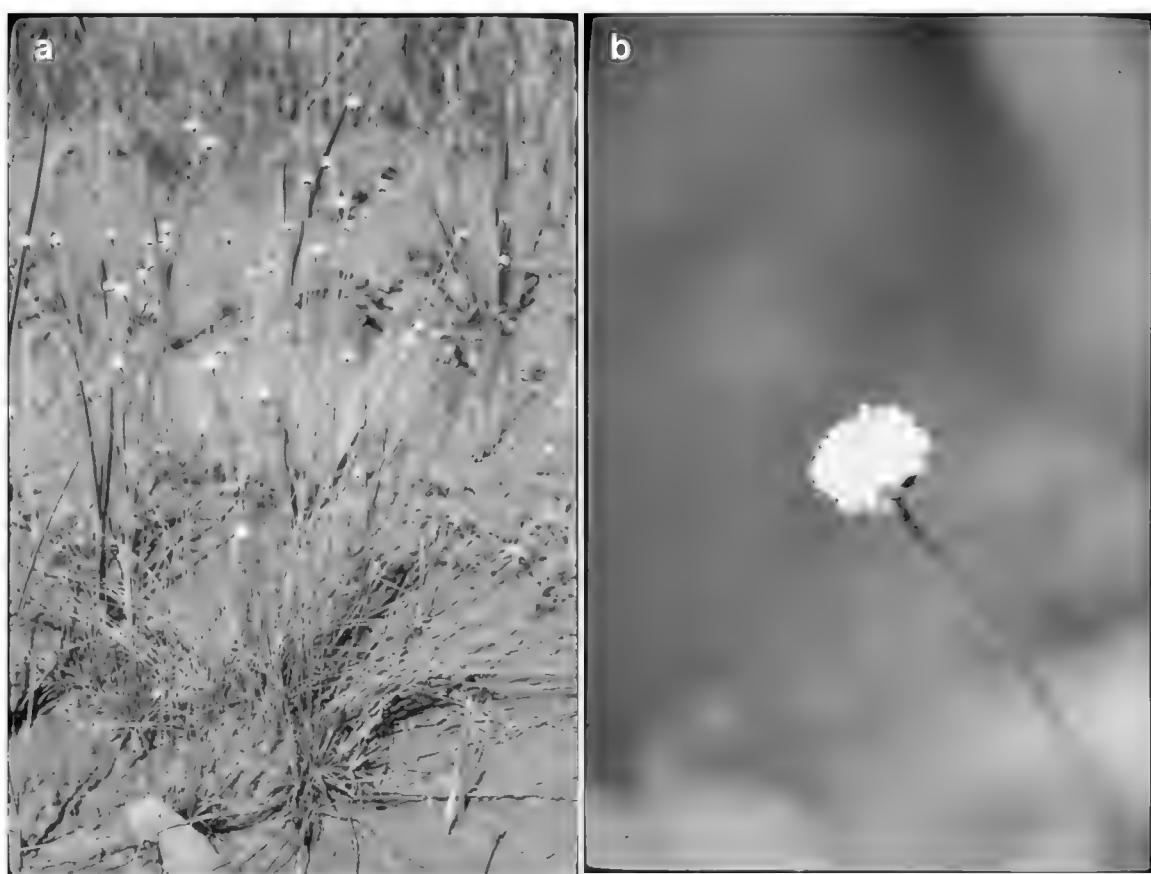


Figure 4.

Eriocaulon cylindratum A.Oliveira & C.P.Bove.

a: habit

b: Inflorescence

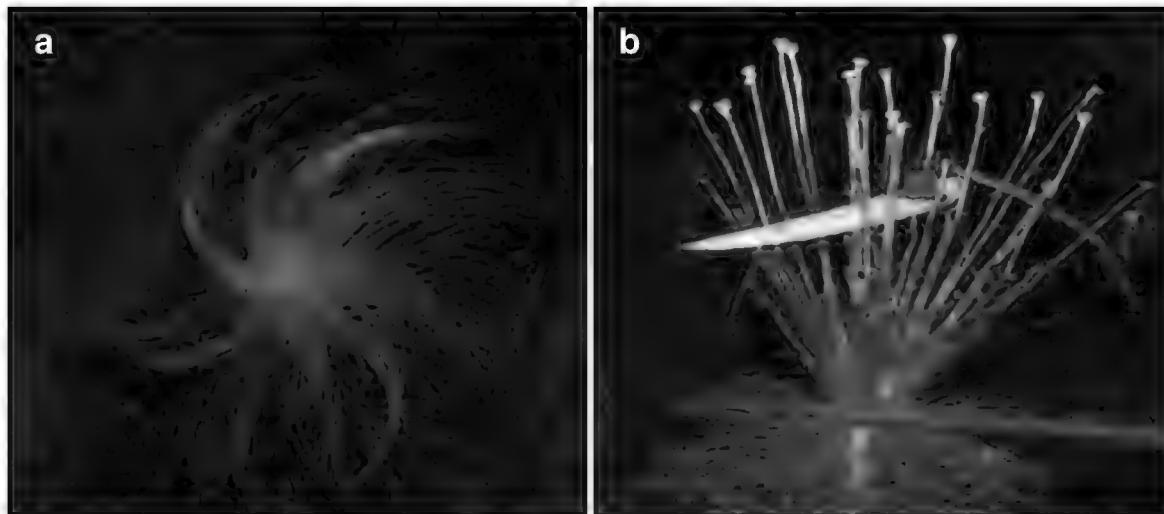


Figure 5.

Eriocaulon setaceum L.

a: habit

b: inflorescence



Figure 6.

Syngonanthus hirtellus Ruhland habit.

In terms of floristics, 101 species are native to tropical and/or subtropical America, 40 are widely distributed and twenty are endemic to Brazil. Ninety-three species are new occurrences to the Araguaia River basin (Table 1). Floristic analysis generally emphasizes arboreal and shrub species. Among the studies that includes the herbaceous species; the aquatic taxa are rarely included or, at least, underestimated. This is reflected in the scarcity of aquatic vouchers in collections (Paz and Bove 2007). The few exceptions are herbaria associated with institutions having aquatic plant specialists. The checklist of the Emas National Park (Batalha and Martins 2002), cites 601 vascular species, nonetheless no strict aquatic taxa are included but only some helophytes as *Commelinia obliqua* Vahl, *Rhynchospora rugosa* (Vahl) Gale and *Ichnanthus procurrens* (Nees ex Trin.) Swallen. Even in checklists from broader regions in Cerrado such as Vão do Paraná (Silva et al.

2004), only 13 out of 1273 vascular species are common with the list we produce herein. Clearly there is a need for more field work specifically focused on aquatic environments. Also, the detailed search through the database SpeciesLink (2002) added three families (Arecaceae, Cannaceae and Orchidaceae) and 62 species to the previous list based on field efforts (Table 1), showing the importance of a database as a tool in analyzing floristic diversity. The Araguaia River basin is far richer in aquatic and marshy species than previously realized. In addition to the new species described for this region mentioned above, the description of another new species of *Eriocaulon* is in progress.

Three species are not cited to the Brazilian Cerrado in any publication: *Panicum latissimum* J.G.Mikan ex Trin., *Philodendron imbe* Schott, and *Rhynchospora aff. unisetosa* T. Koyama. *Panicum latissimum* and *Philodendron imbe* are endemic from Brazil and *Rhynchospora unisetosa* is not reported to occur in Brazil (Alves et al. 2010) but it is found in Colombia and Venezuela; neighboring countries of Brazil (World Checklist of selected plant families 2013). The specimen identified as *affinis R. unisetosa* could also be another new species to the Araguaia region that needs attention from taxonomists. These species were, probably, overlooked and undercollected, highlighting the importance of field work by specialists, and points to the problem of relying on existing collections to determine real aquatic plant diversity. Incongruent data on geographic distribution and/or taxonomic identity were observed in some species; although *Syagrus petraea* (Mart.) Becc. and *Xyris caroliniana* Walter are recognized for the Cerrado and reported for the Araguaia basin using herbarium collections, these species are not mentioned in database of the Brazilian species list (Coelho et al. 2010, Wanderley et al. 2010 respectively). These apparent inconsistencies need the notice of the specialists to be resolved. We opted to keep these taxa in our survey in order to call attention to this matter and, moreover, we prefer to superestimate rather than subestimate the diversity. We consider that the consequences regarding conservation actions are worse given subestimates.

Since the 1970s, many projects have led to reduction in both diversity and area of wetlands. The construction of the Belém-Brasília highway and hydroelectric dams, as well as the expansion of agricultural and mining activities (Moss and Moss 2005), caused major impacts to wetlands in those areas. Notably, no species in this study is mentioned in the official list of Brazilian endangered species (Martinelli and Moraes 2013) probably as a result of insufficient data. *Burmannia flava* Mart. and *Paspalum cinerascens* (Döll) A.G.Burm. & M.Bastos are in redlists compiled by SpeciesLink (2002); *Eriocaulon araguaiense* and *E. cylindratum* are considered endangered by Oliveira and Bove (2015), both belonging to the ENB2 category (IUCN 2001).

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